AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. (currently amended) A method for controlling the recording of diagnostic data within an implantable medical device, the method comprising:

monitoring cardiac rhythm through the implantable medical device;

evaluating the cardiac rhythm to determine the likelihood that ~~one or more circumstances~~ a cardiac arrhythmia will arise; and

controlling the recording of diagnostic data ~~based upon such an evaluation~~ associated with the cardiac rhythm such that no diagnostic data is recorded until it has been determined that a cardiac arrhythmia is likely to arise.

2. (currently amended) The method of claim 1 wherein evaluating the likelihood that ~~one or more circumstances~~ a cardiac arrhythmia will arise ~~is performed to identify~~ comprises identifying periods of time wherein there is an elevated risk of an arrhythmia and wherein controlling the recording of diagnostic data ~~is performed to record~~ comprises recording the data ~~at least temporarily~~ only during the period of time wherein there is an elevated risk of an arrhythmia.

3. (currently amended) The method of claim 2 wherein identifying periods of time wherein there is an elevated risk of an arrhythmia ~~is performed by~~ comprises monitoring heart rate variability and identifying periods of time with reduced heart rate variability.

4. (currently amended) The method of claim 2 wherein identifying periods of time wherein there is an elevated risk of an arrhythmia ~~is performed to identify~~ comprises identifying periods of time wherein there is an elevated risk of ventricular fibrillation.

5. (original) The method of claim 4 wherein identifying periods of time wherein there is an elevated risk of ventricular fibrillation ~~is performed by~~ comprises detecting an episode of ventricular tachycardia and designating a predetermined period

of time subsequent to the episode of ventricular tachycardia as being a period of time with elevated risk of ventricular fibrillation.

6. (original) The method of claim 5 wherein controlling the recording of diagnostic data comprises:

activating the recording of diagnostic data in a temporary memory upon detection of an episode of ventricular tachycardia; and

deactivating the recording of diagnostic data only if no further episodes of ventricular tachycardia are detected within a fixed period of time.

7. (currently amended) The method of claim 6 wherein the fixed period of time is at least nine months.

8. (currently amended) The method of claim 1 wherein evaluating the likelihood that ~~one or more circumstances~~ a cardiac arrhythmia will arise ~~is performed to predict~~ comprises predicting the onset of an arrhythmia and wherein controlling the recording of diagnostic data ~~is performed to activate~~ comprises activating recording only prior to the predicted onset of the arrhythmia.

9. (original) The method of claim 8 further comprising:

determining whether the predicted arrhythmia actually occurred; and

adaptively modifying parameters employed to predict the onset of the arrhythmia based on whether an arrhythmia actually occurred so as to reduce the likelihood of unnecessarily recording diagnostic data in the absence of an arrhythmia.

10. (canceled)

11. (currently amended) The method of claim [[10]] 8 wherein ~~monitoring cardiac rhythm to predict the onset of an~~ predicting the onset of an arrhythmia comprises:

examining the morphology of heart beats and predicting the onset of an arrhythmia based on detection of a significant change in morphology.

12. (canceled)

13. (currently amended) The method of claim [[12]] 8 wherein ~~monitoring cardiac rhythm to detect~~ predicting the onset of an arrhythmia comprises:

counting a number of beats occurring at a rate above a predetermined rate threshold and detecting the possible onset of an arrhythmia based on detection of a predetermined number of beats having a rate above the rate threshold.

14. (original) The method of claim 13 wherein the predetermined number of beats having a rate above the rate threshold is in the range of one to three beats.

15. (original) The method of claim 13 further comprising confirming that an arrhythmia actually occurred and, if the arrhythmia is not confirmed, deactivating the recording of diagnostic data.

16. (currently amended) The method of claim 15 further comprising, ~~performed if the arrhythmia is not confirmed of~~ selectively incrementing the number of beats required to trigger activation of the recording of diagnostic data, if the arrhythmia is not confirmed.

17. (currently amended) The method of claim 16 wherein the number of beats required to trigger activation of the recording of diagnostic data is selectively incremented upon ~~detection~~ occurrence of two consecutive episodes wherein possible onset of arrhythmia was detected, the recording of diagnostic data was activated but the arrhythmia was not subsequently confirmed.

18. (original) The method of claim 1 further comprising:

determining whether the circumstances wherein diagnostic medical data is to be recorded actually occurred; and

adaptively modifying parameters employed to evaluate the likelihood of such circumstances so as to reduce the risk of unnecessarily recording of diagnostic data.

19. (original) The method of claim 1 wherein the diagnostic data to be recorded includes one or more of: intracardiac electrograms (IEGMs) and event records.

20. (currently amended) The method of claim 1 wherein controlling the recording of diagnostic data comprises:

activating the recording of diagnostic data in a temporary memory only if ~~such circumstances are deemed likely to occur~~ a cardiac arrhythmia is likely to arise; and

transferring data from the temporary memory to long-term memory if the ~~circumstances~~ cardiac arrhythmia actually ~~occur~~ occurred.

21. – 22. (canceled)

23. (currently amended) A system for controlling the recording of diagnostic data within an implantable medical device, the system comprising:

a device operative to monitor cardiac rhythm;

a memory operative to record diagnostic medical data associated with the cardiac rhythm; and

a risk-based diagnostic data controller operative to evaluate the cardiac rhythm to determine the likelihood that ~~circumstances~~ a cardiac arrhythmia will arise wherein diagnostic medical data is to be recorded and to control the ~~storage~~ recording of diagnostic data ~~in the memory based upon such an evaluation~~ such that no diagnostic data is recorded until it has been determined that a cardiac arrhythmia is likely to arise.

24. (original) The system of claim 23 and further comprising:

an adaptive-based diagnostic controller operative to adaptively modify parameters employed by the risk-based diagnostic data controller in making its evaluation so as to improve the reliability of such evaluations.

25. (currently amended) A system for controlling the recording of diagnostic data within an implantable medical device, the system comprising:

means for monitoring cardiac rhythm through the implantable medical device

means for storing data;

means for evaluating the cardiac rhythm to determine the likelihood that ~~circumstances~~ a cardiac arrhythmia will arise wherein diagnostic medical data associated with the cardiac rhythm is to be recorded; and

means for controlling the recording of diagnostic data within the means for storing ~~based upon such an evaluation~~ such that no diagnostic data is recorded until it has been determined that a cardiac arrhythmia is likely to arise.